

**Minutes of Meeting #14 of RTCA SC-186 Working Group 3**  
**Development of Revision A of the ADS-B 1090 MHz MOPS**  
<http://adsb.tc.faa.gov/ADS-B/186-subf.htm>

The meeting was called to order by Dr. Vince Orlando at 9am on 25 September 2002, at the Eurocontrol Headquarters in Brussels, Belgium. Dr. Orlando welcomed all attendees and asked that each attendee introduce themselves and their organization. The attendees included:

Larry Bachman – Johns Hopkins – APL	Azhar Osmanboy, Boeing ATM	Mark Schneider, Sensis Corp
Bob Burns, Titan Corp. FAA TC – ACB-410	Tom Pagano, FAA TC – ACB-410	Stuart Searight, FAA TC – ACB-420
Gary Furr, Titan Corp. FAA TC – ACB-410	Jean-Yves Pierre, Thales ATM	Dave Spalding, Raytheon Systems
Bill Harman, MIT Lincoln Lab	Pascal Ponsot, Airbus France	David Thomas, Titan Corp. FAA TC – ACB 410
Ron Jones, FAA ASD-140	Pierre Ruault, Eurocontrol Hdqtrs	Frank Ziegler, CIMS GmbH
James Maynard, UPS Aviation Tech.	Bob Saffell, Rockwell Collins	
Vince Orlando, MIT Lincoln Lab	Jesus Santos, Indra Systems	

- Following the introductions, the following known regrets to attendance were announced:
  - Bob Semar, United Airlines
  - Stacey Rowlan, L-3 Communications
  - Jerry Anderson, FAA
  - Pio Blankas, Honeywell
- Following Agenda Item #2, Vince Orlando made a few introductory remarks specifically welcoming our European members and indicating how much we appreciate the fact that they are working with us.
- Following Agenda Item #4, the Working Group reviewed the Minutes of Meeting #13 held at the RTCA Headquarters in Washington DC. Our colleague Pio Blankas of Honeywell has indicated that there was a mistake in the Meeting #13 minutes when in the opening remarks of Vince Orlando, there was a reference to the Australia 1090 demonstration and Vince incorrectly indicated that L-3 was providing the electronics. We wish to indicate correctly that Honeywell is providing the electronics. The Minutes of Meeting #13 will be corrected and re-posted on the ADS-B/1090 web site.
- Following Agenda Item #5, the Working Group reviewed the locations, dates and times of the next several meetings, which are shown below. WG-3 continued to plan meetings through the expected presentation of DO-260A to RTCA SC-186 Plenary as shown in the table below. Prior to the close of Meeting #14, the Working Group agreed to extend Meetings 15 and 16 as shown below:

<b>Dates/Time</b>	<b>Meeting Place</b>
Tuesday, 12 Nov at 1pm through 5pm, Friday, 15 November 2002	Meeting at RTCA in Washington DC starting now at 1pm Tuesday 11/12  Travel info and lodging details are available on the ADS-B/1090 web site
Tuesday, 10 Dec at 9am through 5pm, Friday, 13 December 2002	Meeting at RTCA in Washington DC extending through 5pm Friday 12/13  Travel info and lodging details are available on the ADS-B/1090 web site
Monday, 27 Jan '03 at 9am through 4pm, Friday, 31 January 2003	<b><u>Confirmed at RTCA - PLENARY DATES ARE CONFIRMED</u></b> WG-3 meeting on Monday, Tuesday and Wednesday to resolve any comments, and the SC-186 Plenary to approve DO-260A meeting on Thursday and Friday

5. Following Agenda Item #6, Gary Furr began discussions on Working Paper WP-14-10, which is a summary of the changes that have gone into DO-260A. Gary pointed out the broad set of changes that have been made in DO-260A and pointed everyone to the section of the ADS-B/1090 web site which contains files that show the actual “redline” changes that generally contain change bars and other indications of exactly what was changed. However, since we are at the stage of the documentation process where we are reviewing and editing the document during WG-3 meetings, the change documents posted on the web site will never show every single change made between DO-260 and DO-260A.
6. Following Agenda Item #7, Larry Bachman presented Working Paper WP-14-17, which was only available to the WG-3 the morning of the meeting. This Working Paper will be posted on the ADS-B/1090 web site after the meeting. Larry stepped through the slides that indicate the very preliminary results of simulations run by JHU-APL on the LA 2020 scenario and the Core Europe 2010 and 2015 scenarios. During discussions, the Working Group agreed that WG-3 had not received direction from the RTCA Plenary to include the Core Europe scenario into the performance Appendix and thus, the Working Group agreed that only the LA 2020 scenario simulation results would be presented. Larry Bachman accepted **Action Item 14-01** to provide receiver simulation results for 24K fruit rate for both ATCRBS and Mode S for –84 dBm and –79 dBm MTLs.
7. Following Agenda Item 8a, Tom Pagano presented Working Paper WP-14-12, which is a re-submission of Working Paper WP-13-05. The data in WP-14-12 summarizes the time distribution of ATCRBS replies measured from a sample of the Frankfurt environment from May 2000 flight tests and a sample from an East Coast environment flight test in September 2001. The analysis was performed to validate the timing distribution that will be utilized in Extended Squitter performance measurement models.
8. Since the topic of Working Paper WP-14-15 in Agenda Item 11b was related to WP-14-12 that Tom Pagano had just presented, WG-3 next reviewed WP-14-15 as presented by William Harman. The timing behavior of received ATCRBS fruit interference was discussed at the two previous meetings of WG-3. It was shown that the timing is somewhat different from a Poisson process. Subsequently Lincoln Lab has determined the effect of this behavior on Extended Squitter reception performance. Working Paper WP-14-15 describes the steps taken to incorporate the non-Poisson timing behavior in the Lincoln simulation, and presents the resulting performance as a comparison between Poisson and non-Poisson behavior. The results indicate that reception performance does not change significantly.
9. Returning to Agenda Item 8b, Gary Furr presented Working Paper WP-14-08 as a summary of items discussed by members of WG-3 during a teleconference held Thursday, 12 September 2002. A few items on the teleconference agenda were deferred to this meeting. All of the open issues that were identified in WP-14-08 were discussed by the Working Group and resolved.
10. Continuing with Agenda Item 8c, William Harman presented Working Paper WP-14-13 in response to Action Item 13-04. Class B2 vehicles (such as snowplows) will broadcast but not receive. In one application being considered by WG-3, these transmissions may be received by aircraft on approach to land at that airport. In the event that the transmitting vehicle is located on the same runway where the aircraft is planning to land, the surveillance information would help to alert the pilot to the conflict, and avoid a serious accident. The question of what transmitter power to use for these transmissions was discussed at a previous meeting. It was pointed out that the range between transmitter and receiver is relatively small, so a lower transmitter power might be sufficient. A study was requested to determine reception performance as a function of range, for ranges of 10 NM and less. This study was performed using a simulation. After discussion by the Working Group, it was

agreed that Bill will re-run the analysis and present the results at Meeting #15. Bill accepted **Action Item 14-03** to revise the analysis of WP-14-13 to include 2 or 0.2 surface position squitters per second. Bill will also address acquisition time for an aircraft flying at 150 knots on final and having a stationary or moving vehicle on the runway. Mark Schneider accepted **Action Item 14-02** to review the requirements for update rate and range/time for FAROA and propose requirements for selection for required transmit power of surface vehicles in conjunction with Action Item 14-03.

11. Completing the Agenda category with Item #8d, William Harman and James Maynard presented Working Paper WP-14-16. Consistent with Action Item #9-3, Jim Maynard and Bill Harman were requested to provide any needed changes to the CPR definitions in the MOPS to make sure that the NL function is clearly defined, especially for exactly 87 degrees latitude. Following Working Group discussion, some editing was performed on the Working Paper and Revision 1 of that Working Paper will be posted on the ADS-B/1090 web site and the Working Group agreed that the suggested changes should be implemented into Appendix A. Bill Harman indicated that a related Action Item #13-09 that requested distribution of a copy of Ed Bayliss's draft technical report on CPR, will be provided at a later meeting.
12. Following Agenda Item 9a, Bob Saffell discussed Working Paper WP-14-01, which was in response to Action Item 12-03. Bob reviewed the four pulse preamble detection tests to assure pulse width and position tolerances are correct and that the test is stated in a way that is independent of sample rate. The review was completed and Bob indicates that minimum -to- no re-work of the test procedure is required, and that the analysis conclusions are provided in the main body of this working paper. The Working Group accepted the analysis and indicated no further changes were necessary.
13. Following Agenda Item 9b, Tom Pagano presented Working Paper WP-14-05, which was prepared by John Van Dongen. At the last meeting, Working Paper WP-13-13 proposed changes to Appendix I to the Enhanced Preamble Detection process based on a combination of the techniques developed by Lincoln Lab and the FAA Technical Center. The proposed changes were awaiting analysis of additional preamble tests not yet included in the FAA Tech Center version. Working Paper WP-14-05 presents data showing improved performance due to the additional preamble tests that are now incorporated into the FAA Tech Center baseline enhanced decoder and provides a re-issue of the new material for Appendix I (that also includes a corrected Figure B). After review and discussion, the Working Group agreed to accept the changes proposed by this Working Paper and directed Gary Furr to implement those changes into Appendix I. Gary will make those changes and re-post Appendix I to the ADS-B/1090 web site after the meeting.
14. Following Agenda Item 9c, Tom Pagano presented Working Paper WP-14-14, which was prepared by John Van Dongen. Working Paper WP-14-14 contains revised Enhanced Reception Test Procedures performance data. The data contained in WP-14-14 replaces data previously presented as part of Working Paper WP-12-10. The data was processed with the revised Enhanced Decoder software that uses the techniques as they are now defined in the revised Appendix I. Working Paper WP-14-14 is intended to support establishing the success criteria for the Enhanced Reception Test Procedures. **Action Item 14-05** was accepted by Bill Harman to review WP-14-14 and add Lincoln Lab numbers of the 8MHz versus 10 MHz for Meeting 15 in order to complete the section 2.4 test procedure tables.
15. In conjunction with Agenda Item 11a, Bill Harman presented Working Paper WP-14-02, which presents a case for the validation of the TASC/Volpe Simulation. Bill indicates that he believes that the simulation can be considered to be validated for calculating fruit from a scenario of aircraft. He thinks that it is important to include the top-antenna, bottom-antenna conditions specifically for each aircraft, and to include the TLAT antenna model in each case.

16. Following Agenda Item 10a, Gary Furr reviewed a copy of the DO-260A Status Matrix for the completion of the entire DO-260A document. Gary pointed out that he has not received any draft copies, nor even comments on Appendices that are in need of revision. Gary stresses that it is critical to the completion dates that responsible persons review and make revisions to those Appendices prior to Meeting 15.
17. Following Agenda Item 10b, Gary Furr presented Working Paper WP-14-06, which is Draft #1 of a matrix showing all section 2.2 requirement paragraphs and the corresponding test procedure paragraphs and their statuses. In WP-14-06, Gary shows where there is review to be performed, or test procedures to be drafted by the use of yellow highlighting. Gary indicated that this Test Procedure Matrix will be used later in the meeting to guide the Working Group through document paragraphs to be reviewed. In future Working Group meetings, this Matrix will be updated to act as a guide for document review.
18. Following Agenda Item 10c, Gary Furr presented Working Paper WP-14-07, which is the 1<sup>st</sup> draft of a matrix which is intended to assist reviewers of the original DO-260 versus the “to-be-approved” DO-260A, and manufacturers who may have based test procedures and documentation on the original DO-260, to better understand where sections of the two documents differ. This matrix will evolve as all Sections 1 through 4 become more clearly defined in DO-260A. Gary agreed to add a column in the DO-260 section of the matrix indicating where sections had been changed, moved or deleted in an effort to more clearly define the dispensation of each section of DO-260 for the review of DO-260A. This matrix in some format will be distributed with the RTCA SC-186 review copy of DO-260A to assist reviewers.
19. Following Agenda Item 10d, Vince Orlando began review of Working Paper WP-14-09, which is a revision of Appendix A to take into account all of the changes that have gone into Section 2.2 of DO-260A. As the Working Group reviewed comments, changes were made to WP-14-09. As further edits were agreed to, the Working Group agreed that those edits would be reflected in the next version of Appendix A, set for review at Meeting 15. All edits accounted for during the meeting will be applied to a Revision of this Working Paper noted as WP-14-09R1, which will be re-posted to the web site after the meeting.
20. Following Agenda Item 10e, Ron Jones began review of Working Paper WP-14-03, which was Draft 0.2 of the proposed Appendix N to show the proposed backward compatibility issues required to be adhered to by DO-260A compliant receiving subsystems. As the Working Group reviewed WP-14-03, changes were agreed to and a Revision 1 was created. The Working Group agreed that WP-14-03R1 would become Version 1.0 of Appendix N and would be posted to the ADS-B/1090 web site.
21. Following Agenda Item 10f, Ron Jones began review of Working Paper WP-14-04, which was Draft 0.2 of a proposed Appendix O intended to show how a 1090 subsystem could accommodate Trajectory Change Reports. The DO-242A includes preliminary requirements for Trajectory Change Reports. Although SC-186 has directed WG-3 to not include the explicit support for TC Reports in DO-260A, WG-3 has been requested to provide information on how TC Reports may be accommodated in a future update. Working Paper WP-14-04 is an update to 1090-WP-13-17. Edits applied to this Working Paper will become WP-14-04R1 and will be posted to the ADS-B/1090 web site after the meeting.
22. Following Agenda Item 10g, Gary Furr began review of Working Paper WP-14-11, which is really Draft #3 of Sections 1 through 4 of DO-260A. As comments were reviewed by the Working Group, changes were made during the meeting, and will continue to be the basis of the next version made available for Working Group review. At the end of Meeting #14, Draft #4 was distributed to Eurocae

WG-51/SG-1 members, Vince Orlando, Ron Jones and Jim Maynard to use as a basis for continuing work and for review by WG-51/SG-1 prior to their next meeting, which has now been set for 17-18 October 2002 at Eurocae in Paris.

23. During the review of Working Paper WP-14-11, Ron Jones requested that the Working Group consider a document which was numbered Working Paper WP-14-18, entitled “*An Approach for Testing of 1090 MHz ADS-B Message Scheduling.*” In WP-14-18, Ron proposes a revision to §2.2.3.2.7.3, which specifies the requirement for the TYPE 23 “Test” ADS-B Message. In addition, Ron then proposes use of this “Test” message for testing the scheduling of the Event-Driven Messages in §2.4.3.3.1.4.6.1. After Working Group discussion, and real-time revision of the Working Paper, the Working Group agreed to implement the suggestions in WP-14-18, and Gary Furr was directed to integrate WP-14-18 into the DO-260A master document and post WP-14-18 to the ADS-B/1090 web site after the meeting.
24. The Working Group then began consideration of another Working Paper prepared by Ron Jones and submitted during the meeting, which was numbered Working Paper WP-14-20, entitled “*Proposal to Require Support for Receiving and Processing of Version 0 ADS-B 1090 MHz Messages in Version 1 Receivers.*” Working Paper WP-14-20 resulted from discussions during the review of the proposed Appendix N (WP-14-03R1) wherein were identified requirements for processing Version 0 messages that are received by Version 1 receivers. Since it was not appropriate to specify requirements in an Appendix, and there needs to be Test Procedures written against these requirements, WP-14-20 attempted to suggest the insertion of requirements into various subsections of 2.2 in order to require that Version 0 Messages are received and processed by Version 1 Receivers. WP-14-20 was accepted by the Working Group and it was agreed that Gary Furr would integrate the suggested text of WP-14-20 into the master DO-260A document and post WP-14-20 to the 1090/ADS-B web site after the meeting.
25. The Working Group then began consideration of another Working Paper prepared by Mark Schneider of Sensis Corp. and submitted during the meeting, which was numbered Working Paper WP-14-19, entitled “*Considering the Utility of TYPES Zero (0) Messages on the Airport Surface.*” In this Working Paper Mark indicates that the current DO-260A draft requires cessation of transmission of Surface Position messages within 60 seconds after the loss of position data in the ADS-B Surface Position message registers. However, multilateration ground surveillance systems can calculate an accurate position based on time difference of arrival with or without the availability of the target’s self-reported position. Therefore, a modification to the requirement text in §2.2.3.2.3.1.3.2 of DO-260A is proposed in this Working Paper, which would remove the 60-second limitation on the transmission of Type code Zero (0) Surface Position Messages from Non-Transponder based devices on vehicles and aircraft. After Working Group discussion, it was agreed to implement the suggested change in the Working Paper. Gary Furr was directed to integrate the change into the master DO-260A document and post the Working Paper on the 1090/ADS-B web site after the meeting.
26. The Working Group then began consideration of another Working Paper prepared by William Harman and submitted during the meeting, which was numbered Working Paper WP-14-21, entitled “*Suggested Changes to Section 2.2.4 Subparagraphs.*” At previous meetings, some suggestions have been made to revise the structure of §2.2.4. Although Bill sees some merit in such a revision, it was agreed by Bill and the Working Group that it was not wise to revise the structure of 2.2.4 at this time. Bill did however make a case for revising several subparagraphs in 2.2.4, and his suggested changes were agreed to by the Working Group. Gary Furr was directed to integrate the changes into the master DO-260A document and post the Working Paper on the 1090/ADS-B web site after the meeting.

27. The Working Group then began consideration of another Working Paper prepared by William Harman and submitted during the meeting, which was numbered Working Paper WP-14-22, entitled “*Suggested Changes to the DO-260A Version of Appendix C.*” After review of the DO-260 version of Appendix C, Bill made suggestions for changes, which were agreed to by the Working Group. Gary Furr was directed to integrate the changes into the master DO-260A document and post the Working Paper on the 1090/ADS-B web site after the meeting.
28. The Working Group then began consideration of another Working Paper prepared by William Harman and submitted during the meeting, which was numbered Working Paper WP-14-23, entitled “*Suggested Changes to the DO-260A Version of Appendix K.*” After review of the DO-260 version of Appendix K, Bill made suggestions for changes, which were agreed to by the Working Group. Gary Furr was directed to integrate the changes into the master DO-260A document and post the Working Paper on the 1090/ADS-B web site after the meeting.
29. The following **Action Items** were identified at this, or previous, meetings of this Working Group. The asterisk (\*) beside a name or organization indicates that they are the lead for the resolution of that Action Item. Actions shown here are those Action Items that remained OPEN at the end of this meeting.

Action Number	Action Description	Assigned to	Status
8-1	Provide the results from testing with the directional 1090 MHz receive antenna. (Flight Tests scheduled for 24-25 April 2002. LDPU had a problem and this may be delayed until Fall 2002)	Carl Jezierski	
9-9	Write a test to verify that the sliding window error correction technique is not used.	Bill Harman Stacey Rowlan *	
10-3	Continue work on the Proposed Transmission Rate for the ID Squitter by analyzing the result if the ID Squitter is sent every 5 seconds.	Bill Harman	
12-04	Document the signal in space characteristics of the ATCRBS Signal Generator and the log video pulse rise time and width. Provide at Meeting 14.	Tom Pagano	
13-02	Analysis is required to complete the number of minimum number of Participant track files for ADS-B Receiving Subsystems	Larry Bachman	
13-03	Obtain the CPR Report from Ed Bayliss that he is currently drafting, and offer it as a Working Paper for Meeting 14	Bill Harman	
13-04	Analyze the probability of report update by an airborne A1 aircraft at 10 miles out, with 30,000 fruit per second, at a 2 second update rate of a B2 surface vehicle in motion. Determine minimum power for B2.	Bill Harman	Addressed by <b>WP-14-13</b> but needs to be rerun
13-05	Prepare another “omitted requirement” working paper for class B2 surface vehicles that should only transmit in the movement area and perhaps a surrounding buffer zone. Determine in which section of DO-260A to place this requirement (§2.1 or §3).	Jim Maynard Mark Schneider *	
13-07	Create a new Table for TIS-B Report requirements to go after Table 2-5 for Class A equipment	Jim Maynard	
14-01	Provide receiver simulation results for 24K fruit rate for both ATCRBS and Mode S for –84 dBm and –79 dBm MTLs. Perform for both the 8 and 10 sample cases.	Bill Harman	

Action Number	Action Description	Assigned to	Status
14-02	Review the requirements for update rate and range/time for FAROA and propose requirements for selection for required transmit power of surface vehicles in conjunction with Action 14-03.	Mark Schneider	
14-03	Revise the analysis of WP-14-13 to include 2 or 0.2 surface position squitters per second. Also address acquisition time for an aircraft flying at 150 knots on final and having a stationary or moving vehicle on the runway.	Bill Harman	
14-04	Review CPR global decoding for low transmission rate for A/V on the surface. The issue is the time period required for reception of both an even and odd transmission.	Bill Harman	
14-05	Review WP-14-14 and add LL numbers of the 8 MHz versus 10 MHz for Meeting 15 in order to complete the 2.4 tables.	Bill Harman	

30. The **Working Papers** shown in the following table are specifically for the Meeting being reported in these Meeting Minutes. Working Papers for all WG-3 Meetings, as well as the Meeting Agendas, Meeting Minutes, Meeting Schedules and modifications to DO-260 for the production of Revision A, will be posted on the ADS-B 1090 MHz web site located at:

<http://adsb.tc.faa.gov/ADS-B/186-subf.htm>

Working Paper	Size	Description	Introduced At:
1090-WP-14-01	9KB	Review of 4-Pulse Preamble Detection Testing, presented by R.H. "Bob" Saffell	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-02	21KB	Validation of TASC Simulation, presented by William Harman	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-03R1	132KB	Version 0.2 of the Draft of Appendix N: Proposed DO-260A Provisions for Backward Compatibility with DO-260 Message Formats, presented by Ron Jones	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-04R1	33KB	Version 0.2 of the Draft of Appendix O: Accommodation of Trajectory Change Reporting, presented by Ron Jones	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-05	54KB	Enhanced Preamble Detection, Proposed New Material for Appendix I, presented by John Van Dongen and William Harman	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-06	244KB	Draft #1 of a DO-260A Test Procedure Status Matrix, presented by Gary Furr	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-07	144KB	Draft #1 of a Matrix to Compare the Structure of DO-260 versus DO-260A, presented by Gary Furr	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-08	12KB	Summary of the WG-3 Teleconference held at 1pm EDT, 12 September, presented by Gary Furr	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-09R1	265KB	Proposed Revisions to Appendix A for 1090 TIS-B and ADS-B MASPS Changes, presented by Vince Orlando	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-10R1	35KB	A Summary of Changes going into DO-260A, presented by Gary Furr	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-11	4.5MB	Draft #3 of Sections 1 through 4 of DO-260A, presented by Gary Furr	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-12	15KB	ATCRBS Timing Distribution Summary, presented by Tom Pagano	Meeting 14, 9/25/02 Eurocontrol, Brussels

Working Paper	Size	Description	Introduced At:
1090-WP-14-13	23KB	Transmitter Power for Class B2, presented by William Harman in response to Action Item 13-04	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-14	52KB	Enhanced Surveillance Processing Test Procedures Performance Data Revision, presented by John Van Dongen	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-15	22KB	Non-Poisson Timing and the Effects on Performance, presented by William Harman	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-16R1	23KB	CPR Clarification, presented by William Harman in response to Action Items 9-3 and 13-3	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-17	84KB	Preliminary Simulation Results for Various Scenarios, presented by Larry Bachman	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-18	13KB	An Approach for testing of 1090 MHz ADS-B Message Scheduling, presented by Ron Jones	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-19	14KB	Considering the Utility of TYPE Zero Messages on the Airport Surface, presented by Mark Schneider, Sensis Corp.	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-20	12KB	Proposal to Require Support for Receiving and Processing of Version Zero (0) ADS-B 1090 MHz Messages in Version One (1) Receivers, presented by Ron Jones	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-21	7KB	Suggested Changes to Section 2.2.4 Subparagraphs, presented	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-22	9KB	Suggested Changes to the DO-260 Version of Appendix C, presented by William Harman	Meeting 14, 9/25/02 Eurocontrol, Brussels
1090-WP-14-23	8KB	Suggested Changes to the DO-260 Version of Appendix K, presented by William Harman	Meeting 14, 9/25/02 Eurocontrol, Brussels